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XIC - A61K-031/00 ; A61K-035/78

AB - J05246866 New cerebral metabolism promoting and cerebral function improving agent comprises as effective substance Asparathus linearis extract.

- The effective substance is obtd. by extracting Asparathus linearis with water and/or organic solvent, and eliminating the solvent, or leaves or stems are crushed, hot water is added to produce a tea. Water extraction is carried out by adding 50-1000 equiv. of water, and boiling it for 5-30 mins.. When extracting as the ordinary tea making, hot water (80-100 deg.C, 50-500 equiv.) is added and allowed to stand still for 3-30 mins..

- The organic solvent is methanol, ethanol or acetone. Daily dosage as drinks is pref. 100-1500 ml/a day contg. 1-5g dried extract.

- USE/ADVANTAGE - The agent stimulates cerebral metabolism of mammals including humans, improving memory and cerebral functions. It is effective for the treatment or improvement of cerebral and nerve disorders caused by senile or Parkinson's disease without causing side effects. It is administered as food and drink, giving rapid effects.  
(Dwg.0/0)

IW - CEREBRAL METABOLISM PROMOTE CEREBRAL FUNCTION IMPROVE AGENT COMPRISE EXTRACT

IKW - CEREBRAL METABOLISM PROMOTE CEREBRAL FUNCTION IMPROVE AGENT COMPRISE EXTRACT

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TI - Cerebral metabolism promoting and cerebral function improving agent - comprises extract of Asparathus linearis

1993

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# PATENT ABSTRACTS OF JAPAN

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(22)Date of filing : 06.03.1992

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## (54) AGENT FOR STIMULATING CEREBRAL METABOLISM AND FOR IMPROVING CEREBRAL FUNCTION

(57)Abstract:

PURPOSE: To provide the cerebral metabolism-stimulating and cerebral function- improving agent containing the extract of Asparagus.linearis of Leguminosae plant as an active ingredient, and capable of activating cerebral metabolism and of rapidly treating and improving cerebral memory and cerebral functions.

CONSTITUTION: The cerebral metabolism-stimulating and cerebral function- improving agent contains as an active ingredient the extract obtained by extracting the leaves or stems of Asparagus.linearis belonging to the genus Leguminosae with water and/or an organic solvent (e.g. methanol). The extract is suitably mixed with conventional medicinal carrier, excipient, binder, diluent, etc., and subsequently prepared into preparations. The preparations can include granules, powder, capsules, coatings, syrups, suppositories, injections, etc. The agent is preferably drunk at a dose of 100-1500ml/day as a solution of 1-5g dried leaves/liter, when commonly administered as a drink. The agent can treat and improve cerebral diseases and neuropathy such as senile dementia and Parkinsonism.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] the asparagus with which this invention belongs to a Leguminosae -- it is related with the brain metabolism promotion and the cerebral function improvement treatment agent which make the component of sus \*\*\*\*\* an active principle

[0002]

[Description of the Prior Art] From the former, \*\*\*\*\* (Takeda Chemical Industries), L-dopa, etc. are known ) the brain metabolism promotion and a cerebral function improvement treatment agent in connection with cerebral functions, such as a senile dementia and Parkinson's disease.

[0003]

[Problem(s) to be Solved by the Invention] In the short term, Parkinson's disease improvement treatment agents, such as senile-dementia improvement agents, such as \*\*\*\*\*, or L-dopa, have come [ however, ] to improve brain metabolism fundamentally, although brain metabolism is promoted. moreover -- the side effect of \*\*\*\*\* or L-dopa \*\*\*\*\* -- nervous systems, such as the numbness of hand and foot, the vertigo, a feeling of wandering, and headache, -- failure and phrenopathies, such as excitement, the delirium, disquiet, and the vigil, -- further -- a loose passage -- it has diarrhea, and it vomits and the failure of digestive systems, such as mind, the inappetence, the stomach ache, and pars-abdominalis displeasure, is known

[0004] Moreover, in order the treatment of a senile dementia and Parkinson's disease is difficult, and an effect is thin or to require a long time, the thing with sufficient effect was not known.

[0005] this invention has few side effects and it aims at offering the brain metabolism accelerator and cerebral function improvement treatment agent which makes active an aged person's brain metabolism, such as the metabolism of a neurotransmitter, and a protein metabolism, and improves storage and a cerebral function.

[0006] then, the asparagus which belongs to a Leguminosae as a result of repeating a research zealously, in order that this invention persons may solve the aforementioned purpose -- the sus \*\*\*\*\* extract found )t that it was effective in brain metabolism promotion and the cerebral function improvement treatment without a side effect, and completed this invention

[0007] the active principle of this invention -- asparagus -- the extract of sus \*\*\*\*\* \*\*\*\* -- becoming -- extraction method \*\*\*\*\* -- asparagus -- the technique of extracting the sheet or stalk of sus \*\*\*\*\* by water and/or the organic solvent, and distilling an extracting solvent out of this extract, or asparagus -- it can obtain by grinding the sheet or stalk of sus \*\*\*\*\* Moreover, you may extract like the process of usual Japanese tea, Chinese tea, the black tea, etc.

[0008] the case where it extracts with water -- asparagus -- 50 to 1000 times as much water as sus \*\*\*\*\* is added, and it is desirable to carry out an ebullism extraction about 5 to 30 more minutes after ebullism moreover, the time of extracting like usual tea -- asparagus -- it is left about 3 to 30 minutes with a 50 to 500 times as much molten metal of 80 - 100 degrees as the xeransis sheet of sus \*\*\*\*\* , and an extract is obtained

[0009] As an example of an organic solvent, a methanol, ethanol, an acetone, etc. are mentioned and common use meanses, such as an extraction, can be used in an extraction at the time of \*\*. Moreover, a separation of an extract can also use common use meanses, such as a decantation and centrifugal separation.

[0010] Distilling off of an extracting solvent can also use common use meanses, such as freeze drying. moreover, asparagus -- the pulverization of the sus \*\*\*\*\* itself can be ground and carried out, and it can also be used

[0011] the support to which this constituent is permitted physiologically and sells an active principle, an

excipient, a binder, and a diluent -- mixing -- a granule, powder material, hard capsules, an elastic capsule, the paint, syrup, a suppository, and the injection \*\*\*\*\* -- taking orally -- or parenterally, it mixes, and with arbitrary gestalt, such as the shape of a solution, powder granulation, a tablet, an emulsion, and jelly, independent medication and concentration liquid can be mixed to use or other ingestas, and it can also eat [0012] Although it changes with the modality of target morbus, and grades, when it uses regularly as a drink, as for the dose, it is desirable to drink and that 100-1500ml /will eat 1-5g xeransis sheet / 1 solution a day.

[0013] asparagus -- the example of death has no sus \*\*\*\*\* at the acute toxicity to a rat, and abnormalities did not accept in the biochemical inspection and the pathology histology-check

[0014]

[Effect] this invention makes active brain metabolism of the mammalian including the Homo sapiens, can improve storage and a cerebral function and can carry out the treatment or an improvement for a brain and nervus morbus, such as senile dementia and Parkinson's disease, without a side effect. Moreover, since there is no side effect, the improvement treatment of the cerebral function can be quickly carried out by recipe by eating and drinking etc.

[0015]

[Example]

Let the sheet (with [ a stalk ]) of \*\*\*\*\* which carried out example extraction of a manufacture be a xeransis sheet through the process of a rolling, enzyme fermentation, and solar drying after cutting to 5mm length. Xeransis boiled 1-5g for 5 - 30 minutes by 1.5-2l. of water, and obtained the extract.

[0016]

[Example]

Example 1 [a brain metabolism promotion experiment]

The extract medication group which takes in the extract obtained in the example of a manufacture every day to a rat (SD system, male) and which was given instead of water, Divide into the rat (control group) which gave usual water, look like [ the brain of a rat ] the guide cannula for minute dialysis tubes in operation, embed it in it, and a minute dialysis tube is inserted after an operation and 20 hours or more progress. By dialysis, the neuro-transmitter (neurotransmitter) within a brain was taken out, it connected with the high performance chromatography (HPLC), and the status of brain metabolism promotion was detected by the electrochemical detector. The result is shown in Table 1.

[Table 1]

表 1

	D O P A C	H V A	5 - H I A A
コントロール群	100%	100%	100%
抽出液投与群	110	106	152

From Table 1, it became clear that a dopamine metabolite etc. increases and brain metabolism is promoting by the extract medication group.

[0017] Example 2 [a dementia symptom improvement experiment]

In the xeransis powder (an equivalent for 3 1g;g xeransis sheet) which dried the extract obtained in the example of a manufacture by the lyophilizer, it is of a poor appetite, he has forgotten the walk, five advanced age status [ that it considered as \*\*\*\*\* ] dogs were medicated, and the improvement of a symptom was investigated. The result is shown in Table 2.

[Table 2]

表 2

症 例 数	有 効	不 変
5	4	1

The energy of four advanced age dogs is recovered after medication and among five animals, appetite also comes out, and it wanted to go [ come ] to take a walk.

[0018] asparagus -- the chemical-analysis result of sus \*\*\*\*\* is as follows

5 of 5  
Iron 23.40mg / 100g Calcium 187.00mg / 100g A potassium 398.00mg / 100g Magnesium 207.00mg / 100g  
Copper 2.25 ppm Zinc 6.74 ppm A selenium 0.13 ppm Vitamin E 17.00mg / 100g protein 8.00% flavonoid  
41.00mg / 100g Antioxidation ability and SOD Mr. potency 69,000unit/g Acid insoluble protein component  
150mg / 100g Aroma component 100mg / 100g 690mg of sugar inclusion compounds, 100g [0019] Moreover,  
as an aroma component, a carbonyl compound (15%), a carotinoid decomposition product (17%), the organic  
acid (22%) of carbon numbers 2-12, a phenolic compound (13%), an aromatic oxygenated compound (7%), an  
aromatic hydrocarbon (5.5%), a terpenoid (4%), etc. are contained. In addition, acid insoluble protein is a  
protein component with comparatively big molecular weight.

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[Translation done.]

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CLAIMS

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[Claim(s)]

[Claim 1] asparagus -- the brain metabolism promotion and the cerebral function improvement treatment agent which makes a sus \*\*\*\*\* extract an active principle

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[Translation done.]

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## Patent Abstracts of Japan

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APPLICATION NUMBER : 04084725

APPLICANT : NAKANO MASATOSHI;

INVENTOR : NAKANO MASATOSHI;

INT.CL. : A61K 35/78 A61K 31/00

TITLE : AGENT FOR STIMULATING CEREBRAL METABOLISM AND FOR IMPROVING CEREBRAL FUNCTION

ABSTRACT : PURPOSE: To provide the cerebral metabolism-stimulating and cerebral function-improving agent containing the extract of *Asparagus linearis* of Leguminosae plant as an active ingredient, and capable of activating cerebral metabolism and of rapidly treating and improving cerebral memory and cerebral functions.

CONSTITUTION: The cerebral metabolism-stimulating and cerebral function-improving agent contains as an active ingredient the extract obtained by extracting the leaves or stems of *Asparagus linearis* belonging to the genus Leguminosae with water and/or an organic solvent (e.g. methanol). The extract is suitably mixed with conventional medicinal carrier, excipient, binder, diluent, etc., and subsequently prepared into preparations. The preparations can include granules, powder, capsules, coatings, syrups, suppositories, injections, etc. The agent is preferably drunk at a dose of 100-1500ml/day as a solution of 1-5g dried leaves/liter, when commonly administered as a drink. The agent can treat and improve cerebral diseases and neuropathy such as senile dementia and Parkinsonism.

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(54) 【発明の名称】 脳代謝促進・脳機能改善剤

(57) 【要約】

【構成】 アスバラサス・リネアリス抽出物を有効成分とする脳代謝促進・脳機能改善治療剤。

【効果】 ヒトを含む哺乳動物の脳代謝を活発にして記憶、脳機能を改善し、老年性痴呆およびパーキンソン病等の脳・神経疾患を副作用なく治療または改善をすることができる。また、副作用がないため飲食等による服用によって、迅速に脳機能を改善治療することができる。



## 【特許請求の範囲】

【請求項1】 アスバラサス・リネアリス抽出物を有効成分とする脳代謝促進・脳機能改善治療剤。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】本発明は、マメ科に属するアスバラサス・リネアリスの含有成分を有効成分とする脳代謝促進および脳機能改善治療剤に関する。

## 【0002】

【従来の技術】従来より、老人性痴呆、パーキンソン病など脳機能に関わる脳代謝促進・脳機能改善治療剤として、アバン（武田薬品）、レードーバなどが知られている。

## 【0003】

【発明が解決しようとする課題】しかし、アバン等の老人性痴呆改善剤あるいはレードーバなどのパーキンソン病改善治療剤は、短期的には脳代謝は促進されるものの、根本的に脳代謝を改善するに至っていない。またアバンやレードーバの副作用としては、手足のしびれ、めまい、ふらつき感、頭痛などの神経系障害と興奮、せん妄、不穏、不眠などの精神障害、さらには軟便、下痢、はき気、食欲不振、胃痛、腹部不快感などの消化器系の障害が知られている。

【0004】また、老人性痴呆、パーキンソン病の治療は難しく、効果が薄いか長時間を要するため、十分な効果のあるものは知られていなかった。

【0005】本発明は、副作用が少なく、神経伝達物質の代謝、蛋白質代謝等、老年者の脳代謝を活発にして記憶、脳機能を改善する脳代謝促進剤・脳機能改善治療剤を提供することを目的とする。

【0006】そこで、本発明者らは、前記目的を解決するために鋭意研究を重ねた結果、マメ科に属するアスバラサス・リネアリス抽出物が、副作用なく脳代謝促進・脳機能改善治療に有効であることを見だし、本発明を完成した。

【0007】本発明の有効成分は、アスバラサス・リネアリスの抽出液からなり、抽出法としては、アスバラサス・リネアリスの葉または茎を水及び／または有機溶媒で抽出し、該抽出液より抽出溶媒を留去する方法、またはアスバラサス・リネアリスの葉または茎を粉碎することによって得ることができる。また、通常の日本茶、中国茶、紅茶などの製法と同様に抽出してもよい。

【0008】水で抽出する場合には、アスバラサス・リネアリスの50～1000倍の水を加え、沸騰後、さらに5～30分程度沸騰抽出するのが好ましい。また、通常の茶と同様抽出するときは、アスバラサス・リネアリスの乾燥葉の50～500倍の80～100度の湯で3～30分程度放置して抽出液を得る。

【0009】有機溶媒の具体例としては、メタノール、

エタノール、アセトン等が挙げられ、抽出にあたって、温時抽出等慣用手段を用いることができる。また、抽出液の分離も、デカンテーションや遠心分離等の慣用手段を用いることができる。

【0010】抽出溶媒の留去も凍結乾燥等の慣用手段を用いることができる。また、アスバラサス・リネアリスそのものを粉碎し、粉末化して用いることもできる。

【0011】本組成物は、有効成分を生理学的に許容されうる担体、賦形剤、結合剤、希釈剤と混合し、たとえば顆粒剤、粉剤、硬カプセル剤、軟カプセル剤、塗布剤、シロップ、坐剤、注射剤として経口または非経口的に、または、混合してそのまま溶液、粉末顆粒、錠剤、乳剤、ゼリー状など任意の形態で単独投与、濃縮液を利用、または他の飲食物に混合して飲食することもできる。

【0012】投与量は、対象となる疾患の種類、程度により異なるが、飲料として常用する場合には、1～5g乾燥葉／1溶液を100～1500ml／日飲食するのが好ましい。

【0013】アスバラサス・リネアリスは、ラットに対する急性毒性で死亡例は皆無であり、生化学検査および病理組織学的検査においても異常が認められなかった。

## 【0014】

【効果】本発明は、ヒトを含む哺乳動物の脳代謝を活発にして記憶、脳機能を改善し、老年性痴呆およびパーキンソン病等の脳・神経疾患を副作用なく治療または改善をすることができる。また、副作用がないため飲食等による服用によって、迅速に脳機能を改善治療することができる。

## 【0015】

## 【実施例】

## 製造例

採取したアスバラサス・リネアリスの葉（茎つき）を、5mm長に切断後、ローリング、酵素醗酵、天日乾燥の工程を経て乾燥葉とする。乾燥は1～5gを水1.5～2リットルで5～30分間沸騰させ抽出液を得た。

## 【0016】

## 【実施例】

## 実施例1【脳代謝促進実験】

製造例で得た抽出液をラット（SD系、雄）に日常摂取する水のかわりに飲ませた抽出液投与群と、通常の水を飲ませたラット（コントロール群）に分け、ラットの脳に微小透析チューブ用のガイドカニューレを手術的に埋め込み、手術後、20時間以上経過後に微小透析チューブを挿入して、透析によって脳内ニューロトランスミッター（神経伝達物質）を取りだし、高速液体クロマトグラフィー（HPLC）に接続して、電気化学検出器で脳代謝促進の状況を検出した。その結果を表1に示す。

## 【表1】

表 1

	DOPAC	HVA	5-HIAA
コントロール群	100%	100%	100%
抽出液投与群	110	106	152

表1より、抽出液投与群ではドパミン代謝物等が増加し脳代謝が促進していることが明らかになった。

【0017】実施例2〔痴呆症状改善実験〕

製造例で得た抽出液を凍結乾燥器で乾燥した乾燥粉末

(1g; 3g乾燥葉相当)を、食欲無く、散歩を忘れ、

ボーッとした状態の高齢な犬5匹に投与して症状の改善

を調べた。その結果を表2に示す。

【表2】

表 2

症例数	有効	不変
5	4	1

\*投与後、5匹中4匹の高齢犬の元気が回復し、食欲もでて散歩に行きたがるようになった。

【0018】アスパラサス・リネアリスの化学分析結果は下記の通りである。

	*20
鉄	23.40mg/100g
カルシウム	187.00mg/100g
カリウム	398.00mg/100g
マグネシウム	207.00mg/100g
銅	2.25ppm
亜鉛	6.74ppm
セレン	0.13ppm
ビタミンE	17.00mg/100g
たんぱく質	8.00%
フラボノイド	41.00mg/100g
抗酸化能・SOD様力価	69,000unit/g
酸不溶性蛋白成分	150mg/100g
香気成分	100mg/100g
糖含有化合物	690mg/100g

【0019】また香気成分として、カルボニル化合物(15%)、カロチノイド分解物(17%)、炭素数9~12の有機酸(22%)、フェノール化合物(13%)、芳香族含酸素化合物(7%)、芳香族炭化水素

(5.5%)、テルペノイド(4%)などを含有する。  
なお、酸不溶性蛋白質とは比較的分子量の大きな蛋白成分である。

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